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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,553	11/26/2003	Petrus Gijsbertus Maria Centen	PF020158	9740

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EXAMINER	
BEMBEN, RICHARD M	
ART UNIT	**PAPER NUMBER**
2622	

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11/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,553	MARIA CENTEN ET AL.	
	Examiner	Art Unit	
	Richard M. Bemben	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's amendment (22 August 2007) to the abstract is acknowledged. Examiner's objection is withdrawn.

2. Applicant's amendment (22 August 2007) to claim 1 to replace the term "power" with the term "amplitude" is acknowledged. Examiner's objection to claims 1-8 is withdrawn.

Claim Rejections - 35 USC § 103

3. Claims 1-6 and 9-14 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,084,632 issued to Inuiya et al., hereinafter ("Inuiya") in view of the applicant's admitted prior art (AAPA).

[Claim 1] Inuiya discloses an image pickup device comprising:

an image sensor generating an image signal (c. 23, ll. 12-15; Fig. 10, "4");

driving means generating a driving signal for the image sensor (c. 23, ll. 16-55; Fig. 10, "12" and "120");

an amplifier for amplifying the image signal with a given gain (c. 23, ll. 39-55; Fig. 10, "6");

adjusting means to set the gain (c. 23, ll. 39-55);

control means for controlling the magnitude of the driving signal (c. 23,ll. 16-55; Fig. 10, "12" and "120");

wherein the control means is adapted to control a maximum output signal of the image sensor depending on the set gain of the amplifier by accordingly controlling the magnitude of the driving signal (c. 23,ll. 16-55; Fig. 10, "12" and "120").

However, Inuiya does not disclose controlling the amplitude of the driving signal.

AAPA discloses that it is known to a person ordinarily skilled in the art that the amplitude of the control signals (pulses) determines the maximum charge that can be accumulated in the photosensitive regions of a CCD or CMOS image sensor during exposure by light impinging on the sensor and that the maximum charge accumulated controls the maximum level of the signal from the sensor (Applicant's remarks dated 22 August 2007, pp. 7-8). Therefore, it would have been obvious to change the amplitude of the control signal (drive pulse) as disclosed by AAPA in the control means of the image pickup device disclosed by Inuiya in order to increase or decrease the level of the sensor's output signal.

The amount of charge accumulated in the photosensitive regions of an image sensor determines the maximum output signal of an image sensor. There are at least two techniques to control the amount of charge accumulation. Both of these techniques involve controlling the charge accumulation via the image sensor driving means. The first way, as disclosed by Inuiya, involves changing the integration time, i.e. the period of the driving pulse supplied to the image sensor. The second way, as disclosed by AAPA, involves changing the amplitude of the driving pulse supplied to the image sensor. Both ways are well known in the art and it would be obvious to one having

ordinary skill in the art to use either or both methods to control charge accumulation in an image sensor. Note: the higher the shutter speed the lower the accumulation time.

[Claim 2] Refer to the rejection of claim 1 and Inuiya further discloses that a pulse pattern generator includes the driving means (c. 23, ll. 16-55; Fig. 10, "12" and "120").

[Claim 3] Refer to the rejection of claim 2 and Inuiya further discloses that the pulse pattern generator includes the control means (c. 23, ll. 16-55; Fig. 10, "12" and "120").

[Claim 4] Refer to the rejection of claim 1 and Inuiya further discloses that a controller comprises the control means (c. 23, ll. 16-55; Fig. 10, "12" and "120").

[Claim 5] Refer to the rejection of claim 1 and Inuiya further discloses that the driving signal is a storage clock signal or an image clock signal (electronic shutter control circuit 12 c. 2, ll. 59-65; c. 23, ll. 16-30 and controller 120 supply image clock signals).

[Claim 6] Refer to the rejection of claim 1 and Inuiya further discloses that the image sensor is a CCD imager (c. 23, ll. 12-15; Fig. 10, "4").

[Claim 9] Refer to the rejection of claim 1.

[Claim 10] Refer to the rejection of claim 5.

[Claim 11] Refer to the rejection of claim 9 and Inuiya further discloses that the magnitude of the pulses is reduced with increasing gain (c. 23, ll. 39-55). Therefore, it would have been obvious to one having ordinary skill in the art to reduce the amplitude of the pulses, when using the second technique discussed above, with an increase in gain in order obtain properly exposed images whether the image sensor output, i.e. amount of charge accumulated, is small or large (also refer to c. 1, ll. 30-60).

[Claim 12] Refer to the rejection of claim 11.

Claim 13 is a method claim corresponding to apparatus claim 1. Therefore, claim 13 is analyzed and rejected as previously discussed with respect to claim 1.

Claim 14 is a method claim corresponding to apparatus claim 11. Therefore, claim 14 is analyzed and rejected as previously discussed with respect to claim 11.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inuiya in view of AAPA in further view of U.S. Patent No. 4,683,498 issued to Topper.

[Claim 7] Inuiya in view of AAPA discloses an image pickup device comprising an image sensor and driving means generating a driving signal for the image sensor (refer to the rejection of claim 1 above). However, Inuiya in view of AAPA does not disclose that the image pickup device comprises two further image sensors.

Topper discloses an image pickup device comprising three image sensors (c. 3, ll. 13-28; Fig.1, solid-state imagers 14, 16, and 18) and driving means generating a driving signal for the image sensors (c. 3, ll. 13-28; Fig.1, sync generator 20, master clock 22, and imager clock generator 24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an image pickup device comprising three image sensors as disclosed by Topper in the image pickup device disclosed by Inuiya in view of AAPA in order to capture high quality color images.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard M. Bemben whose telephone number is (571) 272-7634. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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LIN YE
SUPERVISORY PATENT EXAMINER